

REMARKS

This application has been reviewed in light of the Office Action dated June 2, 2005. In view of the following remarks, favorable reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested.

Claims 1-4, 6, 8, 10, 12, 14, 18, 19, 21, 23, 25, 26, 28, 30, 32, 34, 35, 37 and 39 are pending. Claims 1, 6, 21, 25, 26, 30, 34 and 35 are in independent form.

Claims 1, 2, 4, 6, 8, 21, 25, 26, 30, 34, 35 and 39 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,749,068 (*Suzuki*). Claims 3, 10, 23, 28, 32 and 37 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Suzuki* in view of U.S. Patent No. 5,293,588 (*Satoh et al.*). Claim 12 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Suzuki* in view of *Satoh et al.* and further in view of U.S. Patent No. 4,907,274 (*Nomura et al.*). Claims 14 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Suzuki* in view of U.S. Patent No. 4,922,538 (*Tchorzewski*). Claim 19 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Suzuki* in view of *Satoh et al.* and further in view of *Tchorzewski*. Applicants respectfully traverse these rejections for the following reasons.

The present invention relates to environment adaptation for speech recognition. In a conventional speech recognition system, a speech input terminal transmits inputted speech data to a speech recognition apparatus through a network and the speech recognition apparatus executes speech recognition for the speech data. In such a system, because users, speech input terminals, and circumstances can all vary, adaptation of the speech recognition to an environment at the side of the speech input terminal is needed.

According to the present invention recited in the independent claims, the speech input terminal creates a model for environment adaptation for speech recognition and transmits the model to the speech recognition apparatus. Therefore, it is not required to prepare various models in the speech recognition apparatus in advance, and, advantageously, real-time environment adaptation for speech recognition can be achieved, providing a result that has accounted for an environment at the side of the speech input terminal at that time.

Independent Claim 1 of the present invention recites a speech input terminal in a speech communication system including the speech input terminal for transmitting inputted speech data to a speech recognition apparatus through a network, and the speech recognition apparatus executing speech recognition processing for the speech data transmitted from the speech input terminal. The speech input terminal includes speech receiving means for receiving speech data from speech input means, creating means for creating a model based on information representing an operation environment, the model being for environment adaptation for speech recognition in the speech recognition apparatus, and communication means for transmitting the model and the speech data to the speech recognition apparatus and for receiving the results of the speech recognition executed on the basis of the model by the speech recognition apparatus.

Independent Claim 6 recites a speech recognition apparatus in a speech communication system (generally corresponding to the speech communication system described in Claim 1). The speech recognition apparatus includes speech recognition means for executing speech recognition processing for the speech data transmitted from the speech input terminal through the network, and means for receiving a model for environment

adaptation for speech recognition from the speech input terminal, the model being created by the speech input terminal based on information representing an operation environment thereof. The speech recognition means executes speech recognition processing on the basis of the model.

Independent Claim 21 recites a speech communication system (generally corresponding to the speech communication system described in Claim 1). In the system, the speech input terminal includes speech receiving means for receiving speech data from speech input means, creating means for creating a model based on information representing an operation environment, the model being for environment adaptation for speech recognition in the speech recognition apparatus, and communication means for transmitting the model and the speech data to the speech recognition apparatus and for receiving the results of the speech recognition executed on the basis of the model by the speech recognition apparatus. The speech recognition apparatus comprises means for executing speech recognition processing on the basis of the model.

Independent Claims 25, 26, and 30 are method claims reciting features that generally correspond to those recited in Claims 1, 6, and 21, respectively.

Independent Claims 34 and 35 are storage medium claims reciting features that generally correspond to those recited in Claims 1 and 6, respectively.

By these arrangements, a model for environment adaptation for speech recognition can be created at the *client side* and transmitted with inputted speech data to the speech recognition apparatus, thereby achieving real-time environment adaptation for speech recognition.

Applicants submit that the Patent Office has not satisfied its burden of proof to establish anticipation of these independent claims at least for the following reasons.

First, the Office Action has not identified the elements of the Suzuki patent that correspond to the claimed speech input terminal and speech recognition apparatus. In the absence of such an identification, Applicants assume that the Office Action takes the microphone 66 to correspond to the claimed speech input terminal and takes the speech recognition apparatus 100 to correspond to the claimed speech recognition apparatus. But, the Suzuki patent is not understood to disclose or suggest that microphone 66 1) creates a model based on information representing an operation environment for environment adaptation for speech recognition by a speech recognition apparatus, 2) transmits the model to the speech recognition apparatus 100, or 3) receives the results of speech recognition executed on the basis of the model by the speech recognition apparatus 100, as required by Claim 1. For this reason, the Office has not satisfied its burden of proof to establish anticipation of Claim 1 over this patent. And since the other independent claims recite similar or corresponding features, they are allowable for similar or corresponding reasons.

Second, the elements identified by the Office Action as corresponding to the claimed speech receiving means and the claimed creating means are not understood to be part of any speech input terminal as recited by Claim 1. More specifically, the Office Action indicates that 1) item 200 of the Suzuki patent corresponds to the claimed speech receiving means, and 2) items 1-9 of the Suzuki patent correspond to the claimed creating means. But Claim 1 requires the speech receiving means to be part of a speech input terminal that transmits inputted speech data and a model based on information representing an operation environment

to a speech recognition apparatus. In contrast, item 200 is a noise-superimposed speech signal (column 1, lines 34 and 35) processed by the speech recognition apparatus 100, as clearly shown in Figure 2. Thus, item 200 cannot be a speech receiving means that is part of a speech input terminal that transmits inputted speech data and a model to a speech recognition apparatus, as recited by Claim 1. In addition, Claim 1 recites that the creating means (which creates a model based on information representing an operation environment for environment adaptation for speech recognition) is also part of the speech input terminal that transmits inputted speech data and the model to the speech recognition apparatus. In contrast, items 1-9 are understood to be *part of the speech recognition apparatus*, as clearly shown in Figure 2. Thus, items 1-9 cannot comprise creating means that is part of a speech input terminal that transmits inputted speech data and a model to a speech recognition apparatus, as recited by Claim 1.

For this additional reason, the Office has not satisfied its burden of proof to establish anticipation of Claim 1 over this patent. And since the other independent claims recite similar or corresponding features, they are allowable for similar or corresponding reasons.

Third, the element the Office Action identifies as the claimed creating means is not understood to create a model based on information representing an operation environment for environment adaptation for speech recognition in a speech recognition apparatus, as required by Claim 1. Rather, items 1 to 6 of the Suzuki patent are understood to be components for removing noise from an inputted speech data, item 7 is understood to merely be a component for collating the noise-removed inputted speech data with speech recognition models stored in item 8, and item 9 is understood to merely indicate the result of the speech recognition. Thus,

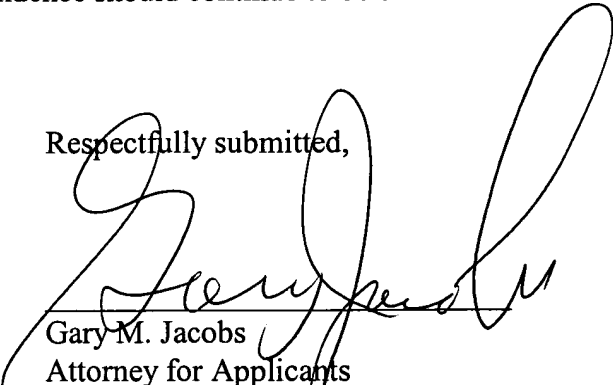
a model for environment adaptation for speech recognition is not understood to be created by items 1-9.

In summary, the Office has not satisfied its burden of proof to establish that the Suzuki patent discloses or suggests a model for environment adaptation for speech recognition created at the *client side* and transmitted with inputted speech data to a speech recognition apparatus, thereby achieving real-time environment adaptation for speech recognition. Thus, the Office Action is not understood to have established anticipation of Claim 1 over the Suzuki patent. And since the other independent claims recite similar or corresponding features, independent Claims 6, 21, 25, 26, 30, 34, and 35 are allowable for similar or corresponding reasons. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejections of the independent claims and their dependent claims. In addition, dependent Claims 2-4, 8, 10, 12, 14, 18, 19, 23, 28, 32, 37 and 39 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

In view of the foregoing remarks, the application is in condition for allowance. Therefore, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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